DOCUMENT RESUME

ED 196 460 JC 800 589

AUTHOR Moriyama, Bruce: Brumley, Leslie
TITLE Miramar College Program Evaluation: Fire Science.
INSTITUTION San Diego Community Coll. District, Calif.
PUB DATE 1 Feb 80
NOTE 88p.

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Average Daily Attendance: Capital Outlay (for Fixed Assets): Community Colleges: Enrollment: Expenditures: Faculty Workload: *Fire Science Education: Job Placement: Labor Market: Objectives: *Program Costs: *Program Evaluation: Tables (Data): *Technical Education: Two Year Colleges

ABSTRACT

Qualitative and quantitative data are presented in this evaluation of the curricular, personnel, and financial status of Miramar College's program in fire sciences. The report first provides the results of an interview with the program chairperson, which sought information on program objectives and goals and their determination, the extent to which the goals were being achieved, the importance of the program to the community, major program changes and outcomes of the past three years, anticipated changes, the impact of a reduction in program offerings, adverse influences on the program, suggestions for improving outcomes and reducing costs, and types of equipment and services used in the program. The bulk of the report provides data tables summarizing, for the years 1975-76 through 1977-78: (1) program staffing costs and personnel workload: (2) average daily attendance and the number of classes offered, students enrolled, and degrees awarded: (3) area job market assessment and graduate placement percentages: (4) capital equipment outlay: (5) instructional equipment costs: and (6) audio-visual/learning resource expenditures. The report concludes with a list of data sources used during the evaluation. (JP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED196460

MIRAMAR COLLEGE PROGRAM EVALUATION

Fire Science

Bruce Moriyama

and

Leslie Brumley

The San Diego Community College District

3375 Camino del Rio South

San Diego, CA 92108

February 1, 1980

JC 800 589

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Leslie Brumley

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The San Diego
Community College District

TO: Thoyd Latham, Miramar College

FROM: Bruce Moriyama and Leslie Brumley

SUBJECT: MIRAMAR COLLEGE PROGRAM EVALUATION - FIRE SCIENCE

The following is the Miramar College Program Evaluation for the Fire Science Program which includes the following:

I The Program Chairman Questionnaire Results

II The Program Staffing Summary

III The Program Enrollment Data

IV The Job Placement Data

V The Capital Equipment Outlay Data

VI The Instructional Cost Data

VII The Audio Visual/Learning Resource Cost Data

VIII The Program Summary

IX The Program Evaluation Sources

It is hoped that the attached will be of some assistance in your decision making process.

BRM:LAB:jb

Attachments

This report is based upon information received from numerous District sources. The accuracy/validity of the information provided within this report is solely the responsibility of the site/source from which it is received. Any unauthorized additions or corrections not approved by Research & Planning Department invalidates the findings of this report.

MIRAMAR COLLEGE PROGRAM EVALUATION - FIRE SCIENCE

I THE PROGRAM CHAIRMAN QUESTIONNAIRE RESULTS

The following information was gathered in a face-to-face interview between the Program Chairman and the Administrative Services Analysts. The purpose of the interview is to assess the program's current situation.

QUESTIONNAIRE RESULTS

FIRE SCIENCE PROGRAM
Department Chairman: Richard Rossmaessler

1) WHAT ARE THE OBJECTIVES/GOALS OF YOUR PROGRAM? HOW ARE THEY DETERMINED?

a) To provide fire protection education for the pre-employment student, and

b) To provide in-service training for advancement (students already employed by the fire department).

The objectives are determined by the Fire Science Advisory Committee on campus. This committee is comprised of people working in the fire science field. The committee constantly supervises the program and reviews all potential changes.

2) TO WHAT EXTENT ARE THESE PROGRAMS OBJECTIVES/GOALS BEING ACHIEVED? HOW DO YOU MEASURE THE ACHIEVEMENTS?

a) For the pre-employment student, this program is about 80% effective based on obtaining skills needed for employment.

b) The in-service training program is not very effective since the program cannot be run like an academy.

Achievements are measured through feedback from: (a) former students, (b) fire Chiefs Association, and (c) Advisory Committee.

3) COMMENT ON THE IMPORTANCE OF THE PROGRAM TO THE COMMUNITY.

a) There is the potential for providing a cost effective mode of education for the community.

b) None of the other colleges in the area can provide the same quality or quantity of fire science courses.

c) 80% of the education provided by the Miramar program is not available on the job.

d) The standardization of learning and skills training is a positive influence.

4) HAVE ANY MAJOR PROGRAM CHANGES TAKEN PLACE DURING THE PAST THREE YEARS?

There has been a decrease in enrollment due to:

a) The loss of veterans' benefits for many students.

b) The lack of employment opportunities due to Proposition 13.

c) Competition from Grossmont and Palomar.

d) The effects of Affirmative Action--lower entrance requirements and promotion requirements for minorities.

5) WHAT FUTURE CHANGES WOULD YOU PROJECT (DEPARTMENTAL LEVEL)?

Next year they plan to re-examine the curriculum and adjust it according to changes in community needs:

a) Add to core courses.

b) Re-evaluation specialization classes.

c) Improve manipulative training classes.

6) DESCRIBE PROGRAM OUTCOMES OVER THE PAST THREE YEARS, INCLUDING SUCH THINGS AS:

a) NUMBER OF A.S. DEGREES. There will be 98 graduates this June.

b) NUMBER OF CERTIFICATES OF ACHIEVEMENT. Don't know.

c) JOB PLACEMENTS. 80-90% of all fire science students secure employment in their field; however, placement rates are down. 15-20% of students in the graduating class won't be able to find jobs.

d) STUDENT SUCCESS RATE. 50% of all students who enter the program successfully complete and receive degrees.

e) TRANSFERS TO 4-YEAR INSTITUTIONS. Approximately 5% of all students transfer to 4-year institutions and 10-15% of those with degrees transfer to 4-year schools.

f) CANCELLED CLASSES. Approximately 2-3 classes are cancelled each semester.

g) UNDER/OVERLOADS OF CONTRACT OR REGULAR STAFF. Currently only one instructor is working in an overload situation (teaching 1 extra class).

7) WHAT WOULD THE IMPACT BE ON STUDENTS AND/OR OTHER PROGRAMS IF PROGRAM OFFERINGS ARE REDUCED? (SPECIFIC RESPONSE NEEDED, NOT GENERALIZATION).

a) If the program were reduced, we would not be able to provide a wide enough variety of classes for the student to be able to complete the program in a reasonable amount of time. A systematic offering of classes is needed for a student to be able to finish in two years.

b) There would probably be a decrease in enrollment.

8) WHAT OTHER LOCAL PROGRAM OPTIONS WOULD BE AVAILABLE TO STUDENTS IF PROGRAM OFFERINGS WERE REDUCED OR ELIMINATED?

a) Palomar Community College.

b) Grossmont Community College.

c) Each fire department has OJT program but no pre-employment program.

9) CAN YOU IDENTIFY ANY FACTORS, EITHER INTERNAL OR EXTERNAL, THAT HAVE HAD AN ADVERSE INFLUENCE ON YOUR PROGRAM?

a) The program is not fully equipped for the manipulative skills training.

b) The Miramar program is not able to regulate fire department training requirements. Completion of the program should be a prerequisite for employment.

c) Affirmative Action is hurting the chances for employment of non-minorities.

d) Classes must be offered via open-enrollment system (can't be run similar to academy system), thus making it harder to offer the in-service courses and specialized training. (Senate Bill 1156 may change this).

10) WHAT SPECIFIC SUGGESTIONS DO YOU HAVE FOR IMPROVING PROGRAM OUTCOMES?

a) Need more money.

b) The ability to restrict in-service courses and specialized training to fire fighter students only.

c) Change employment requirements--require completion of this training program prior to hiring.

d) Need more and better quality equipment.

e) Need mechanic to maintain the equipment; only 65% of present equipment is usable.

f) Need storage room for equipment.

g) Courses should be held on platoon basis since those students working are on a 24-hour-on/24-hour-off shift.

h) If the program is run correctly, it would be a money loser. In manipulative training, the student/teacher ratio should be 4:1.

i) Theory training should be taught through self-instruction modules. Students would work at own pace and must pass exams on modules in addition to taking a comprehensive final. The instructor would just be used as a resource person. This would also help solve the attendance problem.

11) WHAT SPECIFIC SUGGESTIONS DO YOU HAVE FOR REDUCING PROGRAM COSTS?

a) Adequate maintenance and storage of equipment.

1) Equipment left out is either stolen or broken by the general public and costs to repair or replace are very high.

12) COULD THE PROGRAM BE COMBINED WITH SOME OTHER PROGRAM, OR COULD IT BE REORGANIZED IN SOME WAY THAT ITS ESSENTIAL ELEMENTS ARE RETAINED BUT COSTS ARE REDUCED?

The program should be combined with the Emergency Medical Care Program.

a) Fire departments are now requiring personnel to be EMT 1's.

13) ARE PERSONNEL COSTS APPROPRIATE? ARE PROFESSIONALS DOING PROFESSIONAL WORK OR COULD THE WORK, IN SOME AREAS, BE DONE AS WELL BY PARAPROFESSIONALS?

The manipulative training courses should be supervised by an instructor, but could be taught by instructional aides.

14) COULD ANY WORK BE ROUTINIZED AND ACCOMPLISHED IN SOME MORE ECONOMICAL AND EFFICIENT MANNER?

Use of the module instruction system as described in 10-i.

15) WHAT TYPES OF EQUIPMENT ARE USED IN THE CLASSROOM AND HOW OFTEN ARE THEY USED (AUDIO-VISUAL, EDUCATIONAL TELEVISION, ETC.)

a) All types of audio-visual equipment are used on a regular basis.

b) All equipment is located in Learning Resource Center.

16) WHAT OTHER CAMPUS SERVICES ARE UTILIZED AND HOW MUCH (LEARNING CENTER, REPROGRAPHICS, SPECIAL LIBRARY SERVICES, ETC.)?

a) The Learning Resource Center has some self-instruction packages for manipulative training.

b) There is a fire protection library with over 800 books and 300-400 pamphlets.

c) Reprographic use is high--many handouts due to textbook shortage. Most copying done on campus.

II THE PROGRAM STAFFING SUMMARY

The following information is presented to give a better idea of the Certificated/Classified and Hourly/Contract/Regular personnel, use of Paraprofessionals, Certificated staff workload and an overview of program costs.

MIRAMAR COLLEGE PROGRAM REVIEW WORKSHEET

PROGRAM FIRE SCIENCE

Staffing summary:

1. Listed below are the number of all hourly and contract/regular certificated staff and monies spent on salaries for the following school years:

	1975-76	1976-77	1977-78
# hourly personnel (Certificated)	4.13 FTE	1.46 FTE	.57 FTE
# contract personnel (Certificated)	4	3	3
$ spent on hourly salaries	$31,645	$23,460	$10,354
$ spent on contract salaries	$59,043	$44,920	$54,944
TOTAL $ spent on salaries (no fringe benefits included)	$90,688	$68,380	$65,298

It should be noted that the full-time equivalent in the number of hourly certificated personnel has been reduced drastically, while in the areas of the number of contract certificated personnel, the hourly salaries and the total amount spent on salaries has gradually decreased.

2. In the following table, the only noticeable change has been the increase in amount of classified/hourly monies spent on salaries (including fringe benefits) from 1975-78.

	1975-76	1976-77	1977-78
# hourly personnel (Classified)	0	1	1
# regular personnel (Classified)	0	0	0
$ spent on hourly salaries	0	$625	$675
$ spent on regular salaries	0	0	0
TOTAL $ spent on salaries	0	$625	$675

This change can be attributed to the addition of one classified hourly worker and an annual increase in hours worked.

MIRAMAR COLLEGE PROGRAM REVIEW WORKSHEET

PROGRAM FIRE SCIENCE

Staffing summary continued:

3. There is basically one area where instructional staff can be replaced by paraprofessionals. It is:

AREA	NUMBER OF STAFF THAT COULD BE REPLACED
Manipulative Training/Individualized Instruction.	12 hours/week

Presently there is a limited clerical staff. If more clerical staff were allowed, it would save the three certificated staff members 2 hours a day each, for a total of 6 hours a day, therefore indicating the need for 1 full-time clerical support person.

Both areas if implemented would result in an overall program improvement but the lack of growth may prevent this from taking place.

4. The workload of certificated staff is shown on two levels: *office hours and **weekly student contact hours:

	1975-76	1976-77	1977-78
Increased - - - - -	✓*	✓*	✓*
Constant - - - - -			
Decreased - - - - -	✓**	✓**	✓**

While the office hours of the certificated staff has increased, the WSCH has declined therefore questioning the justification of increase in number of certificated positions.

5. The faculty load table has been designed to indicate the increases/decreases in faculty workload as expressed in weekly student contact hours:

PROGRAM	FACULTY LOAD			% INCREASE	% DECREASE	CONSTANT
	1975-76	1976-77	1977-78	1975-78	1975-78	
FIRE SCIENCE	14,966.5	4,539.5	4,824.0	------	10,162.5 or Approx 67.5%	4,539.5

This has been done to give a visual three year comparison of the teaching workload.

FACULTY LOAD

FIRE (Program) - 1975-76 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
PENNELL	141.0	JACOBS	198.0
	235.5		159.0
	174.0		105.0
	87.0		81.0
	39.0		111.0
	129.0		72.0
	99.0		78.0
	75.0	TOTAL	804.0
	12.0		
	54.0	PRICE	298.5
TOTAL	1,045.5		111.0
			69.0
SEWELL	339.0	TOTAL	478.5
	114.0		
	90.0	SMIDT	301.5
TOTAL	543.0	TOTAL	301.5
		SCHMITZ	8,874.0
		TOTAL	8,874.0
		Continued on Next Page - - -	- - - - - - - -

FACULTY LOAD

FIRE (Program) - 1975-76 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
ROSSMAESSLER	168.0	RICE	94.5
	68.0		108.0
	102.0		72.0
	60.0	TOTAL	274.5
	74.0		
	104.0	JENKINS	22.5
	150.5		123.0
TOTAL	726.5		63.0
		TOTAL	208.5
HANSEN	93.0		
	106.5	MAZZONE	75.0
TOTAL	199.5		42.0
		TOTAL	117.0
GREGORY	150.0		
TOTAL	150.0	JENNINGS	102.0
			90.0
MCFARLANE	153.0	TOTAL	192.0
	129.0		
	96.0		
	122.5		
TOTAL	500.5		

Continued on Next Page - - - - - - - - - -

MIRAMAR COLLEGE PROGRAM EVALUATION

FACULTY LOAD

FIRE (Program) - 1975-76 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
JONES	72.0	STANDFIELD	84.0
TOTAL	72.0	TOTAL	84.0
HERNANDEZ	42.0	STAFF	28.5
TOTAL	42.0	TOTAL	28.5
FRANKLIN	45.0	GRAND TOTAL	14,986.5
TOTAL	45.0		
SUMMERS	93.0		
	51.0		
TOTAL	144.0		
CLAYTON	114.0		
	42.0		
TOTAL	156.0		

FACULTY LOAD

FIRE (Program) - 1976-77 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
ROSSMAESSLER	54.0	PENNELL	162.0
	106.5	TOTAL	162.0
	78.0		
	51.0	SEWELL	124.5
	108.0		99.0
	54.0		94.5
TOTAL	451.5		30.0
		TOTAL	348.0
JACOBS	48.0		
	109.5	MITCHELL	117.0
	70.5		111.0
	55.5		57.0
	27.0	TOTAL	285.0
	82.5		
	31.5	PRICE	106.5
	106.5		64.5
	48.0		63.0
	57.0		16.5
TOTAL	636.0	TOTAL	250.5
		Continued on Next Page - - - - - - - - - -	

FACULTY LOAD

FIRE (Program) - 1976-77 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
CAHAN	45.0	MCFARLANE	51.0
	22.5		45.0
	240.0		111.0
	142.5		55.5
TOTAL	450.0	TOTAL	262.5
WEBB	33.0	HARTIN	33.0
	67.5		36.0
	36.0		99.0
TOTAL	136.5		51.0
		TOTAL	219.0
SUMMERS	48.0		
TOTAL	48.0	JENNINGS	60.0
		TOTAL	60.0
STANFIELD	96.0		
	27.0	SMIDT	42.0
	115.5		43.5
	55.5		54.0
TOTAL	294.0	TOTAL	139.5
		Continued on Next Page - - - - - - - - - -	

FACULTY LOAD

FIRE (Program) - 1976-77 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
RICE	55.5	STAFF	12.0
	31.5		4.5
	114.0		3.0
	85.5		3.0
TOTAL	286.5		8.0
			24.0
FARNEY	39.0	TOTAL	54.5
TOTAL	39.0		
		JONES	72.0
OSBORNE	46.5		31.5
TOTAL	46.5	TOTAL	103.5
HOLMAN	22.5	VOGT	40.5
TOTAL	22.5		45.0
		TOTAL	85.5
SPANGLER	105.0		
	48.0	ROBESON	------
TOTAL	153.0	TOTAL	-0-
		GOLDSTEIN	6.0
		TOTAL	6.0
		GRAND TOTAL	4,539.5

FACULTY LOAD

FIRE (Program) - 1977-78 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
SMIDT	37.5	PENNELL	105.0
	81.0		45.0
	37.5	TOTAL	150.0
	31.5		
TOTAL	187.5		
		SEWELL	103.5
JACOBS	39.0		66.0
	90.0		76.5
	127.5		42.0
	55.5		73.5
	43.5		37.5
	7.5	TOTAL	399.0
	33.0		
	100.5	Continued on Next Page - - - - - - - - - -	
	87.0		
	94.5		
	43.5		
	13.5		
TOTAL	735.0		

FACULTY LOAD

FIRE (Program) - 1977-78 (Year)

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
ROSSMAESSLER	91.5	CAHAN	34.5
	70.5		175.5
	85.5		49.5
	70.5	TOTAL	259.5
	360.0		
	362.0	STAFF	4.0
	31.5		1.0
	16.0		37.5
	96.0		44.0
	72.0		3.0
	12.0		20.0
TOTAL	1,267.5	TOTAL	109.5
PRICE	97.5		
	43.5		
	84.0		
	60.0		
TOTAL	285.0		

20 Continued on Next Page - - - - - - - - - -

FACULTY LOAD

FIRE - 1977-78
Program Year

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
HARTIN	63.0	STANFIELD	123.0
	49.5		112.5
	94.5		81.0
	39.0		34.5
TOTAL	246.0	TOTAL	351.0
RICE	60.0	COBB	58.5
	36.0		40.5
	87.0	TOTAL	99.0
	64.5		
TOTAL	247.5	FARRELL	-----
		TOTAL	-0-
MCFARLANE	34.5		
	57.0	VOGT	40.5
	48.0	TOTAL	40.5
	105.0		
	82.5	SCHIEFFLER	78.0
TOTAL	327.0		42.0
		TOTAL	120.0
		21 Continued on Next Page - - -	- - - - - - - - -

FACULTY LOAD

FIRE - 1977-78
Program Year

INSTRUCTOR'S NAME	WSCH	INSTRUCTOR'S NAME	WSCH
DAVENPORT	------		
TOTAL	-0-		
LAUDER	------		
TOTAL	-0-		
WILSON	------		
TOTAL	-0-		
GRAND TOTAL	4,824.0		

III THE PROGRAM ENROLLMENT DATA

Within this section entitled "Program Enrollment Data", the areas of program enrollment trends; statistical summary regarding classes, students, degrees and transfers; ADA data; and faculty load, have been presented. From this information, you can get a good overview of this program's enrollment situation from the number of classes offered each semester to the amount of ADA generated.

MIRAMAR COLLEGE PROGRAM EVALUATION

OVERVIEW OF COSTS TO RUN FIRE SCIENCE PROGRAM

1975-76 School Year Costs		1976-77 School Year Costs		1977-78 School Year Costs	
Staffing	$ 90,688.00	Staffing	$69,005.00	Staffing	$65,975.00
Capital Expenditures	4,887.22	Capital Expenditures	11,316.68	Capital Expenditures	13,906.56
Instructional Costs	2,617.99	Instructional Costs	1,416.69	Instructional Costs	1,739.29
Audio-Visual Costs	2,547.75	Audio-Visual Costs	918.51	Audio-Visual Costs	1,059.64
TOTAL	$100,740.96	TOTAL	$82,656.88	TOTAL	$82,680.59
Number of Students	1,952	Number of Students	1,896	Number of Students	1,548
Cost per Student	$51.61	Cost per Student	$43.60	Cost per Student	$53.41
Approximate Amount of ADA* Collected	$270,131.52	Approximate Amount of ADA* Collected	$168,118.16	Appriximate Amount of ADA* Collected	$175,651.99

*Approximation

MIRAMAR PROGRAM EVALUATION

TYPE OF PROGRAM: FIRE SCIENCE

	1975-76	1976-77	1977-78
No. of Classes Offered	75	105	98
No. of Classes Cancelled	14	26	26
Average No. of Students in Classes	32.0	24.0	21.5
No. of A. S. Degrees	UNAVAILABLE	UNAVAILABLE	98
No. of Certificates of Achievement	UNAVAILABLE	UNAVAILABLE	33
No. of Students Entering Program	UNAVAILABLE	UNAVAILABLE	UNAVAILABLE
No. of Students Completing Program	186	49	154
No. of Transfer Students to 4 Year Institutions	5% WITHOUT DEGREE 10% WITH DEGREE	5% WITHOUT DEGREE 10% WITH DEGREE	5% WITHOUT DEGREE 10% WITH DEGREE
Total ADA	388.01	253.19	240.29
Total WSCH	14,986.50	4,539.50	4,824.0

MIRAMAR COLLEGE PROGRAM REVIEW WORKSHEET

PROGRAM FIRE SCIENCE

Program enrollment data:

Trend in program enrollment:

.The number of class offerings increased from 1975-76 to 1976-77 but dropped during 1977-78 while the number of cancelled classes increased between 1975-76 and leveled off in the latter years.

.The amount of weekly student contact hours has steadily been decreasing while the ADA figure dropped from the first year's all-time high and leveled off during the final two years.

	1975-76	1976-77	1977-78
No. of Classes Offered:	75	105	98
No. of Classes Cancelled:	14	26	26
Percent of Offered Classes Cancelled	18.67	24.76	26.53

MIRAMAR COLLEGE PROGRAM REVIEW

FIRE

	WSCH	
	Sub Total	Grand Total For Year
FALL - 1975	11,604.5	
SPRING - 1976	3,025.0	
SUMMER - 1976	357.0	
		14,986.5
FALL - 1976	1,999.5	
SPRING - 1977	2,534.0	
SUMMER - 1977	6.0	
		4,539.5
FALL - 1977	1,723.0	
SPRING - 1978	2,801.0	
SUMMER - 1978	300.0	
		4,824.0
GRAND TOTAL FOR ALL THREE YEARS		24,350.0

MIRAMAR COLLEGE PROGRAM REVIEW

FIRE

			ADA	
			Sub Total	Grand Total For Year
FALL	-	1975	182.74	
SPRING	-	1976	183.70	
SUMMER	-	1976	21.68	
				388.12
FALL	-	1976	121.44	
SPRING	-	1977	131.39	
SUMMER	-	1977	.36	
				253.19
FALL	-	1977	94.34	
SPRING	-	1978	127.73	
SUMMER	-	1978	18.22	
				240.29

GRAND TOTAL FOR ALL THREE YEARS 881.60

The enrollment Weekly Student Contact Hours (WSCH) and Average Daily Attendance (ADA) figures are based on the District Master Schedule print-out by Census Week.

ADA CALCULATION FORMULAS

The ADA calculation formula for conventional full semester courses:

$$\frac{\text{Census Week - 1 Enrollment} + \text{Census Week - 2 Enrollment}}{\text{TWO}} \times \text{Contact Hours} = \text{Weekly Student Contact Hours}$$

Weekly Student Contact Hours x .911 ÷ 15 = ADA Figure

The ADA calculation formula for independent study and work experience courses:

No. of Units Per Course X No. of Students Enrolled = Weekly Student Contact Hours

Weekly Student Contact Hours x .911 ÷ 15 = ADA Figure

SEMESTER: FALL - DAY YEAR: 1975

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82001 - Pennell	A	141.0	47.0	8.56
82002 - Sewell	001	339.0	113.0	20.59
82003 - Pennell	002	235.5	78.5	14.30
82004 - Pennell	003	174.0	58.0	10.57
82005 - Jacobs	005	198.0	66.0	12.03
82006 - Price	007	298.5	99.5	18.13
82007 - Smidt	008	301.5	100.5	18.31
82008 - Jacobs	012	159.0	53.0	9.66
82009 - Ross-maessler	018	168.0	56.0	10.20
82011 - Hansen	003	93.0	31.0	5.65
82012 - Hansen	005	106.5	35.5	6.47
82013 - Schmitz	012	8,874.0	43.5	16.90
82010 - Staff	049	28.5	9.5	1.73
	Total	11,116.5		153.10

SEMESTER: FALL - EVENING YEAR: 1975

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
92001 - Gregory	006	150.0	50.0	9.11
92002 - McFarlane	009	153.0	51.0	9.29
92003 - Rice	012	94.5	31.5	5.74
92004 - Jenkins	014	22.5	7.5	1.37
92005 - Ross-maessler	039	68.0	17.0	4.13
	Total	488.0		29.64

SEMESTER: SPRING - DAY YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

Based on 1st Census Week data. 2nd Census Week unavailable.

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82001) Pennell	001	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
82002) "	016	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
82003) "	A	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
82004) Pennell	B	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
	Total	-0-		-0-

SEMESTER: SPRING - DAY YEAR: 1976

Based on 1st Census Week data. 2nd Census Week unavailable.

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82005) Sewell	001	114.0	38.0	6.92
82006) Sewell	001	90.0	30.0	5.47
82007) Pennell	002	87.0	29.0	5.28
82008) Pennell	002	39.0	13.0	2.37
82009) Jacobs	004	105.0	35.0	6.38
82010) Jacobs	004	81.0	27.0	4.92
82011) Pennell	006	129.0	43.0	7.83
82012) Pennell	006	99.0	33.0	6.01
82013) Price	007	111.0	37.0	6.74
82014) Price	007	69.0	28.0	4.19
82015) McFarlane	009	129.0	43.0	7.83
82016) McFarlane	009	96.0	32.0	5.83
82017) Mazzone	012	75.0	25.0	4.56
82018) Mazzone	012	42.0	14.0	2.55
82019) Jacobs	014	111.0	37.0	6.74
82020) Jacobs	014	72.0	24.0	4.37
82021) Jennings	016	102.0	34.0	6.19
82022) Jennings	016	90.0	30.0	5.47
82023) Rossmaessler	018	102.0	34.0	6.19
82024) Rossmaessler	018	60	20.0	3.64
82025) Jones	019	72.0	24.0	4.37
82026) Jones	019	Cancelled	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -
82027 - McFarlane	020	Cancelled	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -
82028 - Jacobs	020	42.0	14.0	2.55

SEMESTER: SPRING - DAY YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

Based on 1st Census Week data. 2nd Census Week unavailable

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82032 - Pennell	A	75.0	25.0	4.56
82033 - Pennell	A	12.0	4.0	.73
82034 - Hernandez	016	42.0	14.0	2.55
82029 - Jacobs	049	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82030 - "	049	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82031 - "	049	36.0	12.0	2.19
85005 - Ross-maessler	039	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
85006 - "	039	2.0	1.0	.12
85007 - "	039	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
85008 - "	039	104.0	26.0	6.32
	Total	2,188.0		132.87

Based on 1st Census Week data. 2nd Census Week unavailable.

SEMESTER: SPRING - EVENING YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
92001 - Franklin	A	45.0	15.0	2.73
92002) Summers	001	93.0	31.0	5.65
92003) Summers	001	51.0	17.0	3.10
92004) Pennell	002	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
92005) Pennell	002	54.0	18.0	3.28
92006) Rice	003	108.0	36.0	6.56
92007) Rice	003	72.0	24.0	4.37
92008) Jenkins	005	123.0	41.0	7.47
92009) Jenkins	005	63.0	21.0	3.83
92010) Clayton	017	114.0	38.0	6.92
92011) Clayton	017	42.0	14.0	2.55
92012) Ross-maessler	018	39.0	13.0	2.37
92013) Ross-maessler	018	33.0	11.0	2.00
	Total	837.0		50.83

SEMESTER: SUMMER - DAY YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82001 } Ross-maessler	005	150.5	21.5	9.14
82003 } Ross-maessler	005	Cancelled -	- - - - - - - - - - - - - - -	- - - - - - - - - - - -
82005 - McFarlane	009	122.5	17.5	7.44
82007 - Jacobs	009	Cancelled -	- - - - - - - - - - - - - - -	- - - - - - - - - - - -
	Total	273.0		16.58

SEMESTER: SUMMER - EVENING YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE FIRE

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
92001 - Stanfield	006	84.0	12.0	5.10
92003 - Pennell	006	Cancelled	----------	----------
	Total	84.0		5.10

SEMESTER: FALL - DAY YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82001 - Ross-maessler	100	54.0	18.0	3.28
82002 - Jacobs	100	48.0	16.0	2.92
82003 - Pennell	100	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82005 - Sewell	101	124.5	41.5	7.56
82006 - Sewell	101	99.0	33.0	6.01
82007 - Mitchell	103	117.0	39.0	7.11
82008 - "	103	111.0	37.0	6.74
82009 - Jacobs	105	109.5	36.5	6.65
82010 - "	105	70.5	23.5	4.28
82011 - Price	107	106.5	35.5	6.47
82012 - "	107	64.5	21.5	3.92
82013 - Ross-maessler	118	106.5	35.5	6.47
82014 - "	118	78.0	26.0	4.74
82015 - "	120	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82016 - Cahan	202	45.0	15.0	2.73
82017 - "	202	22.5	7.5	1.37
82018 - Jacobs	204	55.5	18.5	3.37
82019 - "	204	27.0	9.0	1.64
82020 - Webb	211	67.5	22.5	4.10
82021 - "	211	33.0	11.0	2.00
82022 - Cahan	280	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82023 - "	280	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82024 - Jacobs	290	9.0	3.0	.55

SEMESTER: FALL - DAY YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
85008) Staff	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
85009) "	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
85010) "	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
85011) "	270	12.0	3.0	.73
85012) "	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
85013) Staff	270	4.5	4.5	.27
	Total	1,365.0		82.91

SEMESTER: FALL - EVENING YEAR: 1976

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
92001 - Summers	100	48.0	16.0	2.92
92002) Stanfield	106	96.0	32.0	5.83
92003) Stanfield	106	27.0	9.0	1.64
92004) McFarlane	109	51.0	17.0	3.10
92005) McFarlane	109	45.0	15.0	2.73
92006) Hartin	114	33.0	11.0	2.00
92007) Hartin	114	36.0	12.0	2.19
92008 - Jennings	116	60.0	20.0	3.64
92009) Smidt	208	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
92010) Smidt	208	43.5	14.5	2.64
92011) Rice	212	55.5	18.5	3.37
92012) Rice	212	31.5	10.5	1.91
92013) Farney	215	39.0	13.0	2.37
92014) Farney	215	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
92015 - Smidt	215	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
92016 - Osborne	222	46.5	15.5	2.82
92017 - Holman	222	22.5	7.5	1.37
	Total	634.5		38.53
			12	

SEMESTER: SPRING - DAY YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82001 - Ross-maessler	100A	51.0	17.0	3.10
82002 - Jacobs	100A	31.5	10.5	1.91
82003 - Pennell	100B	162.0	27.0	9.84
82005 - Sewell	101	94.5	31.5	5.74
82007 - Stanfield	101	30.0	10.0	1.82
82008 - "	106	115.5	38.5	7.01
82009 - McFarlane	106	55.5	18.5	3.37
82010 - "	109	111.0	37.0	6.74
82011 - Jacobs	109	55.5	18.5	3.37
82012 - "	114	106.5	35.5	6.47
82013 - Ross-maessler	114	48.0	16.0	2.92
82014 - "	118	108.0	36.0	6.56
82015 - "	118	54.0	18.0	3.28
82016 - Spangler	120	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
82017 - "	116	105.0	35.0	6.38
82018 - Jacobs	116	48.0	16.0	2.92
82019 - "	212	73.5	24.5	4.46
82020 - Price	212	43.5	14.5	2.64
82021 - "	213	63.0	21.0	3.83
82022 - Pennell	213	16.5	55.5	1.00
82023 - "	215	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
82024 - Jacobs	215	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
82025 - Cahan	290	13.5	4.5	.82
	280	240.0	8.0	.46

SEMESTER: SPRING - DAY YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
82027) Staff	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
82028) "	270	3.0	1.0	.18
82029) "	270	3.0	1.0	.18
82030) Staff	270	8.0	2.0	.49
82031 - Jacobs	290	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
	Total	1,640.0		85.49

SEMESTER: SPRING - EVENING YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
90331 - Smidt	100A	42.0	14.0	2.55
90333 - Jones	101	72.0	24.0	4.37
90334 - "	101	31.5	10.5	1.91
90336 - Rice	103	114.0	38.0	6.92
90337 - "	103	85.5	28.5	5.19
90339 - Hartin	105	99.0	33.0	6.01
90340 - "	105	51.0	17.0	3.10
90343 - Mitchell	118	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90344 - "	118	57.0	19.0	3.46
90346 - Smidt	202	54.0	18.0	3.28
90347 - "	202	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90350 - Webb	211	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90351 - "	211	36.0	12.0	2.19
90355 - Vogt	217	40.5	13.5	2.46
90356 - "	217	45.0	15.0	2.73
90358 - Staff	270	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90359 - "	270	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90360 - "	270	24.0	8.0	1.46
90361 - "	270	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90365 - Cahan	280	142.5	9.5	.27
90367 - Robeson	213	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
90368 - Jacobs	290	Cancelled -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
	Total	894.0	45	45.90

SEMESTER: SUMMER - DAY. YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.		COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
80090	Stanfield	106	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80091	Stanfield	106	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80092	Ross-maessler	109	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80093	Ross-maessler	109	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80094	Goldstein	270	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80095	"	270	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80096	"	270	Cancelled -	- - - - - - - - - -	- - - - - - - - - - - -
80097	Goldstein	270	6.0	1.5	.36
		Total	6.0		.36

SEMESTER: SUMMER - EVENING YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
NONE				

SEMESTER: FALL - DAY YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
80220 - Smidt	100A	37.5	12.5	2.28
80221 - Jacobs	100A	39.0	13.0	2.37
80222 - Pennell	100B	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
80223 - Sewell	101	103.5	34.5	6.29
[illegible]24 - "	101	66.0	22.0	4.01
[illegible]225 - Ross-maessler	103	91.5	30.5	5.56
80226 - "	103	70.5	23.5	4.28
80227 - Jacobs	105	90.0	30.0	5.47
80228 - "	105	127.5	42.5	7.74
80229 - Price	107	97.5	32.5	5.92
80230 - "	107	43.5	14.5	2.64
80231 - Smidt	118	81.0	27.0	4.92
80232 - "	118	37.5	12.5	2.28
80233 - Pennell	120	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
80234 - Cahan	202	34.5	11.5	2.10
80235 - "	202	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
80236 - Jacobs	211	55.5	18.5	3.37
80237 - "	211	43.5	14.5	2.64
80238 - Cahan	280	175.5	6.5	.33
80239 - Jacobs	290	7.5	2.5	.46
80240 - Staff	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
80241 - "	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
80242 - "	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
80243 - "	270	4.0	1.0	.24
	Total	1,205.5	48	62.94

SEMESTER: FALL - EVENING YEAR: 1977

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
90331) Stanfield	106F	81.0	27.0	4.92
90332) Stanfield	106F	34.5	11.5	2.10
90335) Sewell	109F	73.5	24.5	4.46
90336) Sewell	109F	37.5	12.5	2.28
90340) Hartin	114	63.0	21.0	3.83
90341) Hartin	114	49.5	16.5	3.01
90344) Rice	212	60.0	20.0	3.64
90345) Rice	212	36.0	12.0	2.19
90350) Staff	270	Cancelled - -	- - - - - - - - - - - -	- - - - - - - - - - - -
90351) "	270	1.0	.5	.06
90352) "	270	37.5	12.5	2.28
90353) Staff	270	44.0	11.0	2.67
	Total	517.5		31.44

SEMESTER: SPRING - DAY YEAR: 1978

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
80350 - Jacobs	100A	33.0	11.0	2.00
80351 - McFarlane	100A	34.5	11.5	2.09
80352 - Pennell	100B	105.0	17.5	6.38
80353) McFarlane	101	57.0	19.0	3.46
80354) McFarlane	101	48.0	16.0	2.92
80355) Stanfield	106F	123.0	41.0	7.47
80356) Stanfield	106F	112.5	37.5	6.83
80357) McFarlane	109F	105.0	35.0	6.38
80358) McFarlane	109F	82.5	27.5	5.01
80359) Jacobs	114	100.5	33.5	6.10
80360) Jacobs	114	87.0	29.0	5.28
80361) Cobb	116	58.5	19.5	3.55
80362) Cobb	116	40.5	13.5	2.46
80363) Ross maessler	118F	85.5	28.5	5.19
80364) Ross-maessler	118F	70.5	23.5	4.28
80365 - Farrell	120	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80366) Jacobs	121	94.5	31.5	5.74
80367) Jacobs	121	43.5	14.5	2.64
80368) Cahan	215	49.5	16.5	3.01
80369) Cahan	215	Cancelled -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80370 - Jacobs	290	13.5	4.5	.82
80375) Ross-maessler	280	360.0	20.0	.69
80376) Ross-maessler	280	360.0	20.0	.69
			50	

SEMESTER: SPRING - DAY. YEAR: 1978

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	ENROLLMENT FIGURE	A.D.A.
80371) Staff	270	Cancelled - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
80372) "	270	Cancelled - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
80373) "	270	3.0	1.0	.18
80374) Staff	270	20.0	5.0	1.21
	Total	2,087.0		84.38

SEMESTER: SPRING - EVENING YEAR: 1978

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
90332 - Pennell	100A	45.0	15.0	2.73
90334 } Sewell	101	76.5	25.0	4.65
90335 } Sewell	101	42.0	14.0	2.55
90338 } Rice	103	87.0	29.0	5.28
90339 } Rice	103	64.5	21.5	3.92
90342 } Hartin	105	94.5	31.5	5.74
90343 } Hartin	105	39.0	13.0	2.37
90346 } Price	107	84.0	28.0	5.10
90347 } Price	107	60.0	20.0	3.64
90350 } Smidt	202	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
90351 } Smidt	202	31.5	10.5	1.91
90354 } Vogt	217	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
90355 } Vogt	217	40.5	13.5	2.46
90361 } Ross-maessler	270	Cancelled -	- - - - - - - - - - - -	- - - - - - - - - - - -
90363 } Ross-maessler	270	2.0	1.0	.12
90365 } "	270	31.5	10.5	1.91
90367 } "	270	16.0	4.0	.97
	Total	714.0		43.35

SEMESTER: SUMMER - DAY YEAR: 1978

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
80094 - Ross-maessler	103	96.0	16.0	5.83
90095 - "	103	72.0	12.0	4.37
80096 - Schieff-ler	105	78.0	13.0	4.74
80097 - "	105	42.0	7.0	2.55
80098 - Daven-port	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80099 - "	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80100 - "	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80101 - Daven-port	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80160 - Launer	280	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80161 - Wilson	280	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80162 - Launer	280	Canelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
80163 - Wilson	280	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
	Total	288.0		17.49

SEMESTER: SUMMER - EVENING YEAR: 1978

TYPE OF PROGRAM (please circle): AVIATION POLICE (FIRE)

MASTER COURSE NO.	COURSE NO.	WSCH	AVERAGE ENROLLMENT FIGURE	A.D.A.
90290 } Stanfield	106F	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
90291 } Stanfield	106F	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
90749 } Ross-maessler	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
90751 } "	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
90353 } "	270	12.0	4.0	.73
90355 } Ross-maessler	270	Cancelled - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -
	Total	12.0		.73

MIRAMAR COLLEGE PROGRAM EVALUATION - FIRE SCIENCE

IV THE JOB PLACEMENT DATA

The goal of the Fire Science program is to produce students/ graduates who can compete in the marketplace for the jobs available. Within this section we have covered student placement, job market availability,, employment placement percentages, future job market projections, job placement in addition to information concerning the employment situations both locally and nationally. The majority of the Fire Science graduates will find employment opportunities in the public sector as opposed to private industry.

MIRAMAR COLLEGE PROGRAM REVIEW WORKSHEET

PROGRAM FIRE SCIENCE

Placement data:

1. Job placement of students completing the program:

	1975-76	1976-77	1977-78
# students completing program	186	49	154
# students placed in field of study	78	26	103
# students in other type of employment	6	---	6
# unemployed	6	---	5
# transfer to 4-year institutions	---	---	3
# unknown	96	23	37

2. Job market availability ratio:

	1975-76	1976-77	1977-78
Approximate # Local jobs available	24	59	71
# jobs available/ student completing program	.1/student	1.2/students	.5/student
% of students obtaining positions in field of study	42%	53%	67%
% had to go outside city to obtain jobs	90%	-0-	50%

MIRAMAR COLLEGE PROGRAM REIVEW WORKSHEET

PROGRAM FIRE SCIENCE

3. Employment placement percentages compared with like programs at other institutions:

TITLE OF PROGRAM	SCHOOL	YEAR	#/% PLACED IN FIELD OF STUDY
Fireman Training	Grossmont Community College	1976-78	No Data Available
Fireman Training	Palomar Community College	1976	14 / 17%
Fireman Training	"	1977	123 / 60%
Fire Control Technology	"	1978	2 / 3%
Fireman Training	San Diego State University	1976-78	No Data Available

4. Projections of future job market:

According to the State of California's Employment Development Department's publication "Manpower 1975-1980, San Diego County," the number of protective service workers is expected to increase by nearly 1,600 positions by 1980, bringing the total employment level to over 9,500. The majority of these workers will be employed in federal, state, and local public administration. The anticipated growth rate of 19.7 percent is substantially slower than the 35.3 percent rate registered in the 1970 to 1975 period, but is consistent with average growth projection for most occupations in the San Diego County area. The rate of replacement will be somewhat slower than average, and this will be a major factor in the low job opportunity ratio of 6 openings for every 100 jobs for protective service workers existing in 1975.

Approximately 97 percent of all firemen, fire protection workers are employed in government, with 80 percent concentrated in local public administration. Although the growth rate of 10.4 percent anticipated for the next five years will be down from the 24.9 percent rate recorded between 1970 and 1975, it will be comparable to the rate for all occupations combined. The major source of job opportunities will be new jobs which will account for 4 out of 5 of the 100 average annual opportunities. A much lower than average job opportunity ratio is expected, because of a low level of replacement needs.

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

For Firefighters in San Diego County, the breakdown of employment opportunities were as follows:

Industries	1975 (Actual)	1980 (Projected)	% Up or Down
Agriculture, Forestry, Fishing	27	20	26% ↓
Mining	-0-	-0-	-0-
Construction	-0-	-0-	-0-
Manufacturing	17	15	12% ↓
Transportation, Communications, Utilities	-0-	-0-	-0-
Trade	-0-	-0-	-0-
Finance, Insurance, Real Estate	-0-	-0-	-0-
Services	17	20	18% ↑
Public Administration	1,839	2,233	21% ↑
TOTAL	1,900	2,288	20% ↑

On a national level, from the United States Department of Labor, according to "The Occupational Outlook Quarterly for Spring, 1978," there is the following information:

Occupation	Estimated Employment 1976	Average Anticipated Openings 1976-1985
Firefighters	210,000	8,300/year

Employment Prospects:

Employment expected to increase about as fast as average as need for fire protection grows and professionals replace volunteers. Keen competition for jobs in urban areas; better opportunities in smaller communities.

PROGRAM FIRE SCIENCE

Job Opportunity Ratio:

Net demand from industry change:

1980 anticipated employment level	- 2,288	
1975 employment level	- 1,900	
	=	388
Expected replacement needs	+	95
Total job opportunities from these sources	=	483
Five (5) year period - 1975-1980	÷	5
Average annual job opportunities of volume of job openings per year	=	97

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

There are career positions available for Firefighters both on a local and national level, but it will be a very competitive field.

FIRE SCIENCE

Provides technical instruction and training to meet fire protection needs, responsibilities and public safety obligations. The curriculum is designed to meet educational requirements of:

1. Fire Service Employees.
2. Pre-employment students desiring fire protection career development.

Fire Fighters

Fire Fighters protect communities against the loss of life, injury, and destruction of property by fire. Fire Fighters work as a team with each person assigned to a special job. Duties include operating and maintaining fire equipment and trucks. Other tasks include inspecting buildings for fire safety, promoting fire prevention, and fire cause investigation.

Aptitudes:

Excellent health, agility, good vision, emotional stability, mental alertness, a mechanical aptitude. Ability to work with others and to follow orders.

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

Fire Fighters, continued

Work Setting:

Indoors and outdoors, perform heavy work for prolonged periods under dangerous conditions. Hours include, on duty 24 hours, then off duty for 48 hours, resulting in 56 hours a week. Many belong to the International Association of Fire Fighters. Employers: Municipal Fire Departments. Until recently, small town and rural community fire stations utilized volunteers. Now many are also employing some full-time fire fighters.

Hiring Practices:

Candidates must take competitive exams and pass rigorous health and physical qualifications.

Current Employment:

There are over 31,300 paid Fire Fighters in California.

Wages:

Vary with employment site. Entry rates range from $800 - $900 per month, in smaller communities. For areas such as the San Francisco/Oakland Bay area, entry rates range from $1,200 - $1,300 per month. Fire Fighters now receive extra compensation for overtime hours.

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

Fire Fighters, continued

Outlook:

Outlook depends upon replacement of those who leave the occupation and upon continued public financial support. Current legislative sentiment will affect growth in this field, especially in smaller communities. Applicants will experience competition especially in populous areas. Opportunities are better in the bordering communities where population expansion is making local fire protection a necessity. Prospects are fairly good for applicants who meet the high health and physical qualifications.

Keen competition for jobs in cities. Average growth expected through mid-1980's compared to other occupations as volunteer fire companies in small communities are replaced by professionals and as more cities shorten the work week. Fire Fighters will also be needed to replace those who leave the occupation. Opportunities better in smaller communities.

Location of Jobs:

Most full-time Fire Fighters are located in large cities. Smaller communities and rural areas depend on volunteers.

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

CITY OF SAN DIEGO

The City only forecasts the number of new hires for the upcoming fiscal year. These figures are based on the previous year's turnover rate and department expansions.

Fire Department

A. Turnover rate

1. The San Diego Fire Department has always maintained a very low turnover rate. As of March 22, 1979, the rate was 2.3% of permanent employees.

2. This year's attrition rate has decreased from the March, 1978 figure of 3.4%.

3. The drop-out rate of probationary employees is also much lower in comparison to the Police Department.

B. New Positions

1. The City has budgeted for 60 new positions for the upcoming year. This is an unusually high number of new positions. The usual number of new hires is about half this number budgeted for the new year.

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

CITY OF CHULA VISTA - (As per conversation with C. W. Longerbone, Firechief)

No South Bay fire protection districts have any plans to hire any additional staff due to Proposition 13 cutbacks and new CETA regulations.

No Fire Fighter can be found who will accept the $580.00 CETA salary offered. (i.e., Imperial Beach Fire Department.)

The Miramar Fire Science degree will allow prospective candidates to waive the written exam, but all must take the physical exam and oral interviews.

Basically feels that Miramar program is beneficial, but they do all their own training (similar to airlines).

Few opportunities exist in the private sector except for large industrial manufacturing employers (i.e., Rohr, General Dynamics, whose hiring is limited and at low salaries) and related areas (Fire Science equipment sales.)

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

PALOMAR COMMUNITY COLLEGE - (As per conversation with Mr. Jackson, Coordinator of Public Services)

Fire Science
A Fire Science major is required to take the following per semester:

A. 1 Required Basic Course
B. 2 Electives

Courses will be filled on a platoon basis of scheduling.
Class sizes range from 30 - 35 students with low dropout rates.

Program anticipates no expansion.

Most people in Fire Science are in for A.A. degree which qualifies them for promotional opportunities.

Last year Fire Science figures:
20 certificates
10 A.A. degrees

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

CITY OF LA MESA

The city has recently converted over to the three platoon system and anticipates no hiring in the coming year.

Fire Department

A. Turnover rate

1. The La Mesa Fire Department has a very low turnover rate but no specific information is available.

B. Attrition Rate

1. There are anticipated openings in the areas of Fire Inspection and Fire Suppression Platoon Chiefs but these may be filled from in-house candidates or the positions may be abolished.

C. Hiring History

1. From 1975-78 approximately 12-15 Firefighters were hired.

2. Last January, 1979, an additional six Firefighters were added.

Source: Glen Webb

PROGRAM FIRE SCIENCE

4. Projections of future job market, continued:

CITY OF EL CAJON - (As per conversation with Olivia - Admin. Analyst)

The attrition/turnover rates for fire department personnel have been very low. Presently there is generally one a year. All other openings except for entry level Firefighters are promotional. The City of El Cajon tentatively plans to hire less than half a dozen Firefighters a year but with the pending Federal/State Revenue Sharing Refund situation, this may be eliminated.

The Firefighter examination is offered twice a year by the East County Regional Testing Center (which services Santee, Lakeside and other East County cities in addition to El Cajon.)

PROGRAM FIRE SCIENCE

5. Placed by Whom:

AGENCY	NUMBER OF STUDENTS* PLACED		
	1976	1977	1978
Convair*	NO DATA AVAILABLE		
General Atomic*	NO DATA AVAILABLE		
National Steel and Ship Building*	NO DATA AVAILABLE		
The City of Chula Vista	NO HIRING DONE		
The City of San Diego	30	30	60
The City of La Mesa	- - - 12 -	15 HIRED - - - -	
The City of El Cajon	NO DATA AVAILABLE		

*Positions in fire science exist but no turnover means no recruitment.

PROGRAM FIRE SCIENCE

5. Placed by Whom, continued:

Additional data for number of students place by industry:

Convair

Number of Fire Science personnel hired:

1976)

1977) Maintains limited staff with no turnover/attrition.

1978)

Any Miramar students - if so, how many?

None to their knowledge.

Projected plans for hiring:

None

General Atomic

Same as Convair (see above).

National Steel and Shipbuilding

Same as Convair (see above).

City of Chula Vista

Number of Fire Science personnel hired:

1976)
Hired no new personnel.
1977)

1978) CETA employees absorbed into department for any openings.

Any Miramar students - if so, how many?

None to their knowledge.

Projected plans for hiring:

Now new positions foreseen opening up due to budget restrictions.

PROGRAM FIRE SCIENCE

5. Placed by Whom, continued:

Additional data for number os students placed by industry, continued:

City of San Diego

Number of Fire Science personnel hired:

1976) 30*

1977) 30*

1978) 60

*Approximations

Any Miramar students - if so, how many?

No data available.

Projected plans for hiring:

Approximately 30 openings a year will become available.

City of La Mesa

Number of Fire Science personnel hired:

1976)

1977) 12 - 15 Firefighters hired*

1978)

*Approximation

Any Miramar students - if so, how many?

No data available.

Projected plans for hiring:

No new hiring anticipated.

PROGRAM FIRE SCIENCE

5. Placed by Whom, continued:

Additional data for number of students placed by industry, continued:

City of El Cajon

Number of Fire Science personnel hired:

1976)

1977) No data available.

1978)

Any Miramar students - if so, how many?

No data available.

Projected plans for hiring:

Less than a half dozen will be hired annually to meet turnover/attrition.

V THE CAPITAL EQUIPMENT OUTLAY DATA

The following are the actual capital equipment outlay expenditures for all three academic years in the Fire Science program. For your information, this does not include Evening program expenditures (destroyed due to reorganization) and the data was not stored in an orderly manner. Therefore, there is no guarantee that all information was examined.

PROGRAM FIRE SCIENCE

Capital equipment outlay data:

The capital equipment outlay budget is not a conventional District budget in which monies are earmarked for specific purposes. Instead, monies are set aside for possible anticipated expenditures and then used if needed.

The following is a three-year comparison of actual expenditures with a comparison table of the amount budgeted, spent and over/under budget columns, in addition to a section on trends in this budget and a listing of constant expenditures:

1. ACTUAL EXPENDITURES	SCHOOL YEAR		
	1975-76	1976-77	1977-78
Fire Hose Equipment	$3,392.22	$ 6,323.62	$ 1,264.00
Pants/Boots, etc.	-	2,591.70	1,532.00
Battery Charger	-	58.24	-
Safety Belts	-	73.87	-
Breathing Apparatus	-	437.25	723.19
Tools	-	-	1,128.89
Training Fees	-	-	880.00
Membership	-	-	40.00
Lumber	-	-	1,117.24
First Aid Kit	-	-	352.34
Additional Costs (can't locate requisitions)	1,495.00	1,832.00	-
Display Board	-	-	1,233.00
Fire Apparatus	-	-	5,000.00
Hydraulic Unit	-	-	636.00
TOTAL	$4,887.22	$11,316.68	$13,906.66

PROGRAM FIRE SCIENCE

2.

$ AMOUNT BUDGETED	AMOUNT SPENT			OVERSPENT BY	UNDERSPENT BY
	1976	1977	1978		
$5,060.00	$4,887.22				$172.78
$11,607.00		$11,316.68			$290.32
$5,643.00			$13,906.66	$8,263.66	

3. Trends in capital outlay expenditures:

Increasing ✓ Constant _____ Decreasing _____

% increase from 75 - 78 = 185%

The total capital outlay expenditure for all three years was $30,110.56. The 1975-76 yearly expenditures represented 16% of the total, the 1976-77 yearly expenditures maintained 38% of the three-year total, and 1977-78 represented 46% of the total. The average annual expenditure for this budget is $10,036.85.

4.

AREAS OF CONSTANT EXPENDITURES:	TOTAL SPENT (3 YEARS)
Fire Hose Equipment	$10,979.84
Pants, boots, etc.	$4,123.70
Breathing Apparatus	$1,160.44
This amounts to 54% of the expenditures for the 3 year period.	

PROGRAM FIRE SCIENCE

Capital equipment outlay data, continued:

The constant capital expenditures are in the three areas of fire hose equipment, i.e., boots, pants, etc., and breathing apparatus. All three areas must be replaced due to daily useage. They are more expensive to purchase due to inflation and the hose equipment, in particular, can fall victim to vandalism and age. The impact of increased enrollment upon this budget might, in turn, increase equipment expenditures.

VI THE INSTRUCTIONAL COST DATA

The following are the actual instructional cost data for all three academic years in the Fire Science program. For your information, this does not include Evening program expenditures (destroyed due to reorganization) and the data was not stored in an orderly manner. Therefore, there is no guarantee that all information was examined.

PROGRAM FIRE SCIENCE

Instructional cost data:

The instructional budget includes instructional training materials, duplication costs, petroleum expenses, etc., which supports the instruction program. Here is a breakdown of all the above mentioned expenses:

1. ACTUAL EXPENDITURES	SCHOOL YEAR 1975-76	1976-77	1977-78
Fire Hose Equipment	$ 6.00	$ -	$ 207.92
Instructional Handbooks & Training Materials	310.12	108.70	105.12
Paper	100.04	17.02	268.48
Binders	59.02	-	166.22
Brochures	142.00	-	-
Miscellaneous Supplies	100.00	200.00	-
Fire Pump Operators	96.63	-	-
Fire Equipment Kits	753.66	-	-
Dictionary	11.61	-	-
Axe	77.53	-	-
Cardiopulminary Equipment	158.74	-	-
Stethoscope	303.96	-	-
Membership	46.00	40.00	-
Labels, etc.	263.05	-	-
Gloves	115.54	-	-
Vehicle Maintenance Supplies	9.60	36.09	-
Duplicating	27.49	106.33	-
Transparencies	37.00	-	17.22
Sign	-	7.13	-
Postage	-	26.00	-
Wood, Nails, etc.	-	138.35	43.91
Gas & Oil	-	122.04	261.44
Salvage Covers	-	424.32	-
Electrical Cords	-	128.75	-
Oxygen	-	11.00	8.00
Stencils	-	12.72	-
Calendar	-	2.03	-
Mops/Brooms	-	2.70	37.70

continued . . . .

Instructional cost data:

1. ACTUAL EXPENDITURES	SCHOOL YEAR 1975-76	1976-77	1977-78
Folders	$ -	$ 20.07	$ -
Index Cards, Guides, etc.	-	11.85	13.89
Typewriter Ribbon	-	1.59	-
Chains	-	-	114.75
Tools	-	-	60.37
Paint & Brushes	-	-	9.77
Report to Governor	-	-	21.20
Batteries & Motors	-	-	62.47
Cleaner Equipment	-	-	35.00
Harness	-	-	14.12
Walkie Talkie	-	-	119.08
Duster Bottles	-	-	58.69
Reducers	-	-	60.42
Ink	-	-	8.66
Shears/Scissors	-	-	3.57
Rope	-	-	31.29
TOTAL	$2,617.99	$1,416.69	$1,739.29

2.

$ AMOUNT BUDGETED	AMOUNT SPENT			OVERSPENT BY	UNDERSPENT BY
	1976	1977	1978		
$8,205.00	$2,617.99				$5,587.01
$4,501.00		$1,416.69			$3,084.31
$4,079.00			$1,739.29		$2,339.71

3. Trends in educational expenditures:

Increasing _____ Constant _____ Decreasing ___✓___

% decrease from 1975 - 1978 = 34%

The total instructional expenditures for all three years was $5,77[illegible].97. The 1975-76 yearly expenditures represented 45% of the total, the 1976-77 yearly expenditures maintained 25% of the three year total, and 1977-78 represented 30% of the three-year total. The average annual expenditure for this budget is $1,924.66.

4.

AREAS OF CONSTANT EXPENDITURES:	TOTAL SPENT (3 YEARS)
Instructional Training Materials	$523.94
Paper Supplies	$385.54
Duplicating	$133.82
Fire Hose Equipment	$213.92
Gas/Oil	$383.48
Miscellaneous Supplies	$300.00

This amounts to 34% of all expenditures for the 3 year period.

Instructional cost data, continued:

For the past three years this program has experienced a decrease in its expenditures. It has remained approximately $3,670 under budget every year. In the event of increased enrollment, the impact of this budget will undoubtedly be more expenditures to fulfill student needs.

VII THE AUDIO VISUAL/LEARNING RESOURCE COST DATA

The following are the actual Audio Visual/Learning Resource expenditures for all three academic years in the Fire Science program. For your information, this does not include Evening program expenditures (destroyed due to reorganization) and the data was not stored in an orderly manner. Therefore, there is no guarantee that all information was examined.

Audio-visual/learning resource cost data:

The audio-visual/learning resource budget lists all instructional aids, such as, films, tapes, etc., used in the Fire Science program:

1. ACTUAL EXPENDITURES	SCHOOL YEAR 1975-76	1976-77	1977-78
Subscriptions	$ 114.75	$119.10	$ 171.60
Books	1,578.64	219.95	122.08
Films	275.60	165.00	-
Slide Shows	556.50	-	156.51
Directory	22.26	-	-
Codes	-	75.00	106.00
Tapes	-	79.50	65.46
Library Kit	-	21.83	-
Tutoring Series	-	-	163.24
Casette Deck	-	-	274.75
Record Player	-	238.13	-
TOTAL	$2,547.75	$918.51	$1,059.64

PROGRAM FIRE SCIENCE

2.

$ AMOUNT BUDGETED	AMOUNT SPENT			OVERSPENT BY	UNDERSPENT BY
	1976	1977	1978		
-0-	$2,547.75			$2,547.75	
-0-		$918.51		$918.51	
-0-			$1,059.64	$1,059.64	

3. Trends in audio-visual learning resources expenditures:

Increasing _____ Constant _____ Decreasing _____

The total audio-visual/learning resource expenditures for all three years was $4,525.90. The 1975-76 yearly expenditures represented 56.33% of the total, the 1976-77 yearly expenditures maintained 20.33% of the three-year total, and 1977-78 represented 23.41% of the three-year total. The average annual expenditure for this budget is $1,508.63.

4. AREAS OF CONSTANT EXPENDITURES:

	TOTAL SPENT (3 YEARS)
Subscriptions	$405.45
Books	$1,920.67
Films & Slide Shows	$1,153.61

This amounts to 77% of all expenditures for the 3 year period.

PROGRAM FIRE SCIENCE

Audio-visual/learning resource cost data, continued:

There has been no budget for these resources. Therefore, no true statement of excessive expenditures can be made. The constant expenditures of subscriptions, books and films are required expenses to maintain program quality. The only area in which increased enrollment would impact on this budget would possibly be books, but this is an area where budgetary controls can be maintained.

VIII THE PROGRAM SUMMARY

Within this report we have tried to cover as many aspects as possible in conjunction with the Fire Science program. The points of information covered within this report are:

A) An interview with the program chairman to investigate specific areas which should be brought to your attention.

B) A summary of the program staffing situation over the past three academic years to give you a better perspective on its evolution.

C) The program enrollment data which includes ADA, WSCH and other enrollment data and summaries. This segment will give you ideas on enrollment trends for the past three years.

D) The job placement summary in which employment data has been gathered for the past three years in addition to the local and national job outlook.

E) The capital equipment outlay budget in which information was monitored and tabulated to show a three year comparison.

F) The instructional budget was tabulated in the same manner as the above budget but this gives a more detailed description of what the majority of classroom expenditures are.

G) The audio-visual/learning resource expenditures which will give you a fairly good idea of the costs involved with instructional materials.

MIRAMAR COLLEGE PROGRAM EVALUATION - FIRE SCIENCE

Program Summary, continued:

In closing, this program evaluation took place during the reorganization of the District and the combination of the day and evening academic programs. During this period of change, the best effort was made to give a g give a good, fair report.

These are some observations of the program:

1. The enrollment figures have remained constant, therefore showing interest in the program.
2. The employment/placement outlook in this field can be labeled fair-to-good depending upon the choice of the local or national job market.
3. In regards to the program budgets, the most recent capital outlay and all audio-visual costs have exceeded their prescribed budgets and are definitely on the increase.
4. The academic program will have to be scheduled to accomodate the 24 hour workday shift of fire service personnel.

Once again, it is hoped that this report will be of assistance to you.

2-1-80

IX THE PROGRAM EVALUATION SOURCES

.The University of California at Irvine
Career Planning and Placement Center -
The Ziggy Project, 1979

.The Occupational Outlook Handbook
The U.S. Department of Labor - 1976-77 Edition

.The Educational Program Vitality Report
Los Angeles Community College District, 1977

.The Place of Program Completions in Vocational Education
Programs - Coast Community College District, 1975-76, -77, -78

.The Monterey Peninsula College Program Review
Monterey Peninsula College, 1978

.The Labor Supply and Demand - San Diego County
Employment Development Department, April - June, 1979

.The Job Outlook in Brief - The U.S. Department of Labor -
Bureau of Labor Statistics, Spring, 1978

.The Manpower 1975 - 1980
Employment Development Department - San Diego County, May, 1976

.Rossmaessler, Richard and Jacobs, Ralph
Miramar Community College - Fire Science Department

.Longerbone, C. W., Firechief,
The City of Chula Vista Fire Department

.The City of San Diego, Personnel Department

.Jackson, D., Coordinator
Palomar Community College - Public Services Department

.Hoskins, Diane, Fire Personnel Department
City of San Diego

.Webb, Glen - Fire Department, City of El Cajon

.Administrative Analyst Olivia -
Fire Department, City of La Mesa

UNIVERSITY OF CALIFORNIA
CLEARINGHOUSE FOR
JUNIOR COLLEGES
96 POWELL LIBRARY BUILDING
LOS ANGELES, CALIFORNIA 90024

88
1981 06 011

FEB 20 1981